Emergency contraception

Canadian Paediatric Society

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Emergency contraception has been in use in North America for over two decades. Often referred to as the morning-after pill, emergency contraception is an effective way to prevent pregnancy after unprotected intercourse. Research published in 1998 (1) has led to an improvement in available treatment. Despite this, many adolescent girls are not aware of emergency contraception or do not know how to obtain it. In some provinces, pharmacists can give emergency contraceptive pills (ECPs) without a prescription.

The term morning-after pill should be avoided because this name implies that it can only be used the next day, while ECPs have been proven to be effective within three days of unprotected intercourse. Adolescent girls may not present for emergency contraception because they think it is too early or too late.

Because no method of emergency contraception in use will work if implantation has already occurred, these methods are not to be considered or used as abortifacients.

EMERGENCY ORAL CONTRACEPTION

The previously referred to study (1) showed that emergency contraception containing 0.75 mg levonorgestrel (sold in Canada as 'Plan B') worked better and caused much less nausea and vomiting than the 'traditional' Yuzpe method that uses combined high dose estrogen-progestin pills (2).

It is postulated that hormonal emergency contraception works by preventing implantation of a fertilized ovum through changes in the endometrium (3), delaying ovulation or interfering with corpus luteum function (4). Studies indicate that hormonal emergency contraception is very effective (5). Without intervention, eight in 100 women will become pregnant after a single act of unprotected intercourse during the middle two weeks of the menstrual cycle. With the Yuzpe method, about three in 100 women will become pregnant. Only one pregnancy per 100 women occurs with levonorgestrel only (Table 1).

TABLE 1
Modified Wilcox estimates of conception probabilities

	Plan B (levonorgestrel)		Yuzpe method (norgestrel-ethinyl estradiol)	
First dose	Pregnancy rate (%)	Efficacy (%)	Pregnancy rate (%)	Efficacy (%)
<24 h	0.4	95	2.0	77
25-48 h	1.2	85	4.1	36
49-72 h	2.7	58	4.7	31

Data from reference 6

WHO CAN USE EMERGENCY CONTRACEPTION?

Adolescent girls who have attained menarche and have had consensual or nonconsensual unprotected sexual intercourse can be given emergency contraception (Table 2). Adolescent girls can take levonorgestrel unless they are known to be pregnant or have undiagnosed abnormal vaginal bleeding. Adolescent girls can take estrogen-containing emergency contraception if they are not known to be pregnant, and have no history of stroke, estrogen-sensitive tumour or thrombophlebitis, active liver disease or untreated hypertension.

TABLE 2
Situations where emergency contraceptive pills should be considered

Totally unprotected intercourse
Ejaculation onto genitals
Coitus interruptus
Condom breakage or slippage
Intrauterine contraceptive device expulsion or midcycle removal
Spermicide alone at midcycle
More than two missed oral contraceptive pills or pills started more than two days late
Missed minipill (progesterone only) within 48 h
Delay in getting scheduled contraceptive injection
Sexual assault (not on oral contraceptive pill)
Condom alone or spermicide alone plus recent teratogen exposure (eg, Accutane)
Advance-of-use prescription for any girl who does not want to become pregnant and who may find herself in one of the above situations

Accutane (Hoffman-La Roche Limited, Mississauga)

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TABLE 3
Liver enzyme-inducing drugs

Carbamazepine
Rifampin
Phenytoin
Metronidazole
Barbiturates
Tetracycline
Isoniazid
Benzodiazepines

WHEN TO TAKE EMERGENCY CONTRACEPTION

Emergency contraception can be used at any time during the menstrual cycle. Earlier, small studies seemed to indicate that timing of the first dose within the first 72 h was not important, but it is now clear that both forms of oral ECPs are more effective if given in the first 24 h, with efficacy decreasing over the next 48 h (Table 1). Despite this, it has been suggested that emergency contraception may be useful for up to five days (7). If an adolescent girl presents after three days, ECPs can be tried up to 120 h after intercourse, as long as she is informed that it has less chance of working, although an intrauterine contraceptive device (IUCD), if available, is a better option (see below).

HOW TO PRESCRIBE EMERGENCY CONTRACEPTION

Paediatricians, family physicians and others who care for teens should consider having ECPs available in the office. Some teens will have difficulty getting a prescription filled, and may not be able to manage a visit to both the physician's office and the drugstore. A prescription can be written for 'Plan B, as directed' or 'levonorgestrel 0.75 mg PO now and again in twelve hours'.

Although nausea is much less common with levonorgestrel only, almost one quarter of women taking it report some nausea. The drug company does not make a recommendation regarding concurrent administration of 50 mg dimenhydrinate, but there is no reason to believe that it will interfere with the efficacy of ECPs and can be given with either or both doses (see short and long term effects, below).

For either regimen, the timing of the second dose is important. For practical reasons, the first pill(s) can be delayed so that both doses are given during the teen's normal waking hours. If the second set is missed, the entire course must be repeated.

If Plan B is not yet available in your province, two high dose norgestrel-ethinyl estradiol (Ovral, Wyeth-Ayerst, St Laurent) tablets can be given with 50 mg dimenhydrinate initially; the entire dose is repeated 12 h later.

It has been suggested that if norgestrel-ethinyl estradiol is not available, use four lower dose oral contraceptive pills. But if using cycled pills, use only four pills of the highest dose and repeat 12 h later. However, these have not been evaluated in clinical trials.

SHORT AND LONG TERM EFFECTS

Levonorgestrel ECPs are associated with nausea in 23% of cases, abdominal pain in 18%, fatigue or headache in 17% and vomiting in 6% of women. Although there may be some spotting in the days after treatment, 58% of women have their period within a few days of the expected date.

Nausea and vomiting are frequent side effects when estrogen-containing ECPs are given without antiemetics. To increase the efficacy of the antiemetic, it can be given 1 h before the hormones. Giving the antiemetic after nausea occurs is not helpful. Adolescent girls who vomit more than 1 h after taking a dose do not need to retake those pills because absorption has occurred, and the nausea and/or vomiting are likely to be a result of treatment. Breast tenderness, headaches and dizziness are less common side effects of ECPs. Most teens will get their period within 21 days of treatment.

Given that no teratogenic risk has been found with pregnancies that occur while women are taking high dose birth control pills, it is unlikely that there is an increased risk of birth defects in babies born to adolescent girls who have taken emergency contraception during pregnancy. Pregnancies that occur do not need to be terminated just because emergency contraception was used.

For adolescent girls taking medications that induce liver enzymes (Table 3), the dose of estrogen-containing ECPs should be increased to three high dose norgestrel-ethinyl estradiol pills, taken twice. There are incomplete data regarding interactions of these medications with levonorgestrel (Plan B), but available information suggests that there is increased clearance of the drug, and a reasonable course would be to double the dose of levonorgestrel in the presence of liver enzyme-inducing drugs.

NONHORMONAL EMERGENCY CONTRACEPTION

A copper-coated IUCD is a highly effective method of emergency contraception that can be used within 120 h of intercourse. However, it is not usually available in paediatricians' offices or emergency rooms. If it is felt that an IUCD is the only option, prophylactic antibiotic coverage for both gonorrhea and chlamydia should be considered. The IUCD can be removed during or after the next period.

CLINICAL PRACTICE POINTS

History and physical examination

Adolescent girls may come specifically for emergency contraception, or an indication for emergency contraception may be discovered during routine history taking. In either case, the date and nature of the last menstrual period should be elicited, as well as when she has had intercourse since that period. She should also be asked about her history of contraceptive use and history of contraindications to oral contraceptives. Physical examination should include deter-

mination of blood pressure. Pelvic examination is indicated if the last menstrual period was unusual and the physician suspects that the patient is pregnant, has concerns about sexually transmitted infections or if an IUCD will be inserted. If a pelvic examination is performed, specimens should be taken for chlamydia and gonorrhea cultures, as well as a Pap smear if one has not been done in the past year.

DISCUSSION WITH THE TEEN

After determining whether emergency contraception is indicated, explain the method to the adolescent and the possibility of failure of the method. Explain that the next period might be early, on time or late. Discuss her options should she become pregnant (see statement on Adolescent pregnancy [8]). Explain that if she is going to have intercourse before her next period, she should use a barrier method with a spermicide. If the patient is taking emergency contraception because she has missed birth control pills, she can start a new pack of pills the day after she takes emergency contraception. She should be told that ECPs do not prevent or treat sexually transmitted infections.

Because emergency contraception is not 100% effective, follow-up is important. Teens should be advised to return for a pregnancy test if their next period is more than one week late or if the next period is unusual in any way. They should also return if they have heavy bleeding or pain. An appointment can be scheduled for one week after the next expected menstrual period. This appointment is an opportune time for counselling around the teen's choices about her sexual activity, contraception, sexually transmitted infections and safer sex. The adolescent can be praised for coming in for emergency contraception, and a suggestion can be made that she consider another method of preventing pregnancy. If she chooses oral contraceptives, pills and condoms can be given to her with instructions.

SUMMARY

Emergency contraception is an effective way to minimize the chances of a pregnancy occurring following unprotected intercourse. Paediatricians and family physicians should consider having oral emergency contraception available in the office to give to teens at risk for unwanted pregnancy. This should be communicated at routine visits or with posters or pamphlets that might be available from local public health departments.

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